The Portfolio

Portfolio of Work

University of Lincoln
C J Rogers

Brief 01 ARC1147

Walk The Line

20.09.07 - 27.09.07

A group project in we all must walk from point a to point b on the map walking in a straight line as much as possible recording, documenting and analysing things of interest along the way.

The work was to be professionally presented as a series of 100x100mm images on an A2 page however this scale and grid was developed that allowed for proportionally elongated or cut-up images.

The suggested medium included sketching, photography, film, sound, artefacts & rubbings. As many of these were utilised as possible for the final piece.

Wanting to keep to the brief as firmly as possible it was found difficult to allow for much creativity such as model making or generally steeling bits from the walk. However it was hard to criticise when the brief was followed so closely.

The mixed media worked well although there was need for more text, and perhaps a map of the route that was taken (a major part of the project)

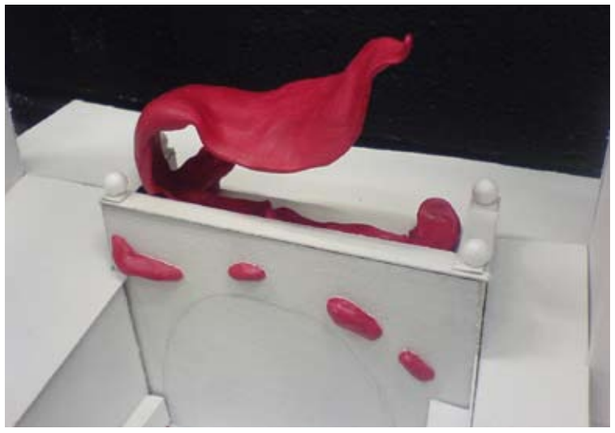
The display board is showing the changing, developing and progression that availed on the walk; starting out at a natural raw environment, prossing into shacks and shanty huts of civilisation and ending in the modernised urban landscape of the University Campus. This worked well through the background images & the shift of colour.

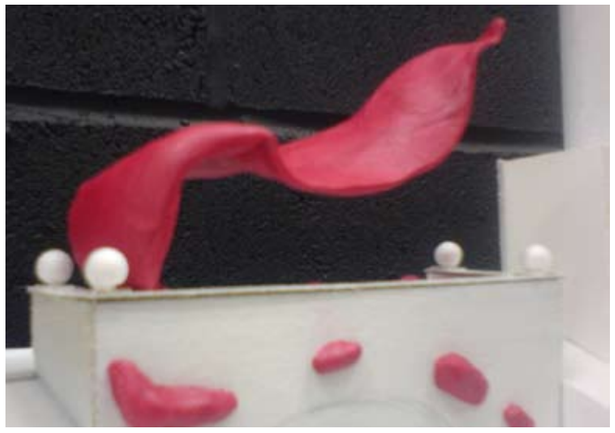
Brief 02

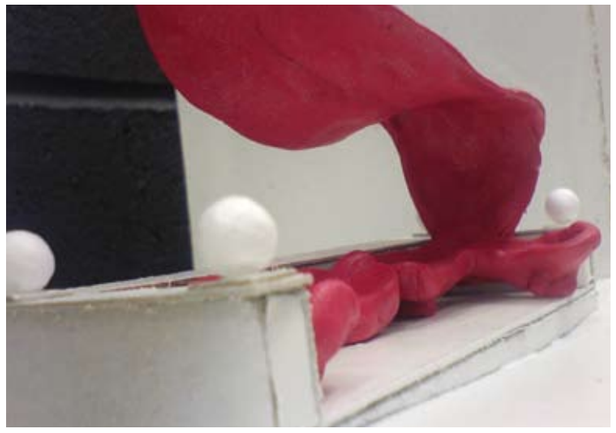
The Nomad

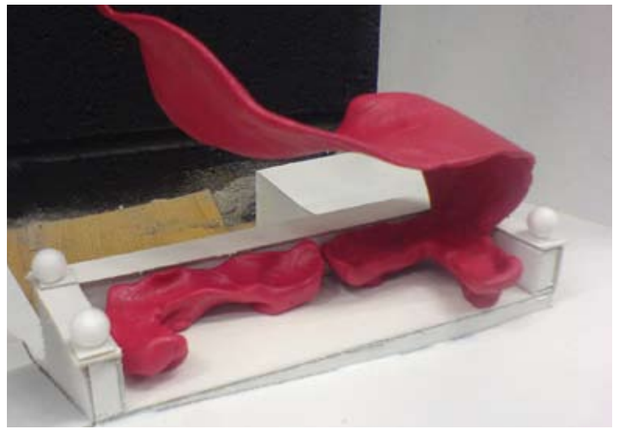
27.09.07 - 11.10.07

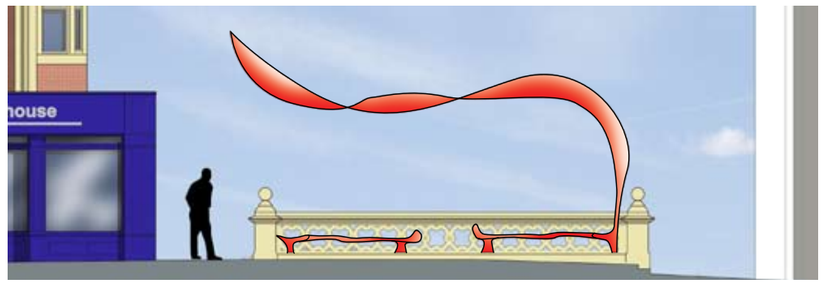
ARC1147











The project overview was to find a site in the city, design, build and install a structure with a specific purpose. It is an exploration of architecture as an act of installation within the wider context of the city.

Responding to a specific need this design developed although it was quite a confusing concept to grasp and was a fairly slow process.

The idea of a parasitic yet utilizable form became the focus bringing a new understanding and perception to the site itself, taking form and space from a rather unused area of the busy high street.

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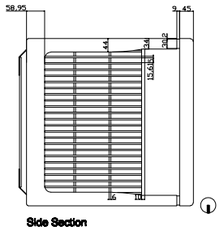

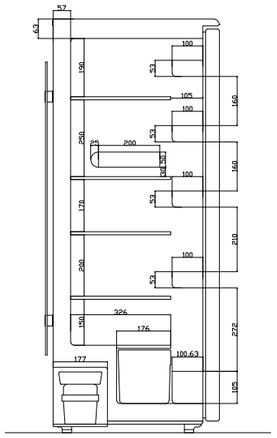

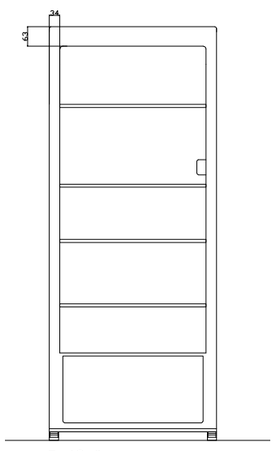

The Fridge

1A03

Brief 03

11.10.07 - 01.11.07

CJ Rogers

When studying The social habits of the common Fridge a few things are apparent: it won't move unless pushed & it doesn't seem to have learned to talk back to you when you ask it a question. Does this mean it is stupid, uncultured & hopeless? One thing for certain is that it is more human than you may at first think.

Without the human there would be no Fridge because the human gave birth to the Fridge. We needed the Fridge to help keep our food & liquids cool so they would last longer. Luckily for us the Fridge needs our warm food to feed on, to keep its body temperature stable & healthy. As a cold blooded animal it needs this warmth to stay alive but is much happier like the bears & squirrels to hibernate. Remaining unconscious for the majority of the time the Fridge saves its energy & wakes for us to feed him, much like a new born jaundice baby.

It has its own habitat called a kitchen though some of its cousins live further a field in other man made developments like canteens and reception areas.

But the Fridge is also an emotional being. We often

ferrero nutella
pataks raita
tagliatellie
four cheese pasta sauce
orange juice
one pint organic milk
strawberry actimel
one pint milk carton milk
hellman's light mayonnaise
robertson strawberry jam
orange juice
onion & garlic pasta sauce
orange juice
dolmio tomato & cheese pasta sauce
one pint milk carton milk
one pint milk carton
water jug
four pint milk carton

tagliatellie
two pints semi skimmed milk
red pepper
half a cucumber
lemon juice
lurpak spreadable butter
cheddar cheese
four cheese pasta sauce
cadbury dairy milk buttons chocolate dessert
nestlé rolo milk chocolate desert
black pepper chiabatta croutons
dutch edam cheese slices

crumbly lancastershire cheese
flora original margarine
kraft philadelphia
double gloucester cheese
One pint milk carton
nestle aero chocolate mouse
muller light vanilla desert
six eggs

390g galaxy chocolate bar
eight malteasers
half of an onion
divine milk chocolate
four cheese tortellini
left over curry
utterly butterly margarine
two rashers of bacon
apple & plum compote
grated medium cheddar cheese
mature cheddar cheese block
two cloves of garlic
One tomato
leftover pasta sauce

coca-cola
four eggs
chicken kiev's
two flora margarine pots
eight yoplait wildlife fromage frais
twelve button mushrooms
prawns

Brief 03

ARC1147

The Fridge

11.10.07 - 01.11.07

This project entailed a detailed survey of the common fridge to produce a complete a set of scaled drawings (elevations, plans and section) a two point perspective all presented professionally.

The Project aimed to develop CAD skills, communication skills, drawing skills and representation, looking at anthropology, contents and context.

Unfortunately, difficulty with the narrative of the project meant a struggle to get into it. Although the end result was quite aesthetically pleasing and fairly thought through, the drawings and surveying was not as good as it easily could have been.

The concept for this fridge project was the relationship one has with their fridge; the emotional attachment one has with it and the humanistic qualities one can derive from it.

Like a human it has a heart, a pump, circulation through wires, a death day, many corresponding factors. Mainly however is the fact that one can become totally thrilled by a fridge, angered by a fridge and distressed by a fridge, much like any other human being.

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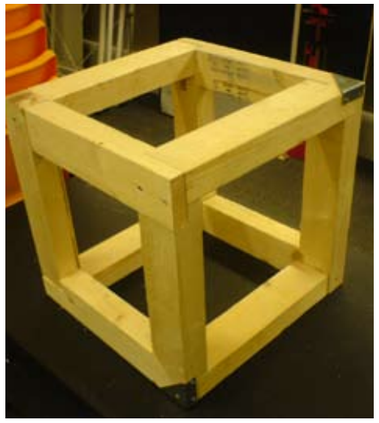
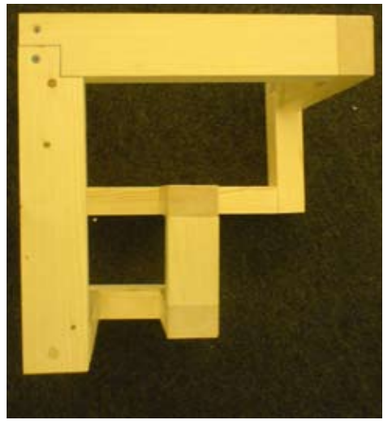
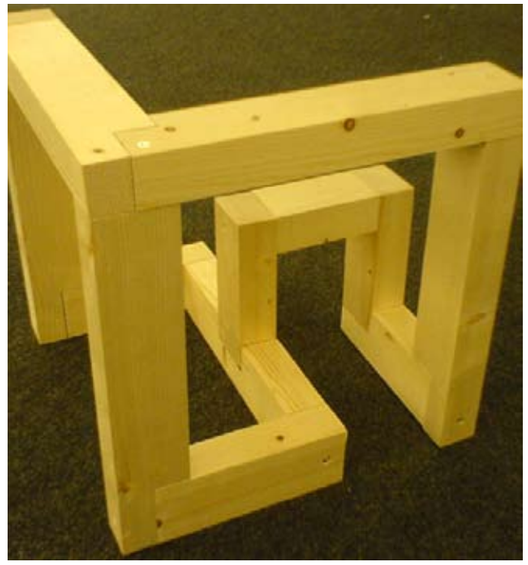
Brief 04

The Solid Void

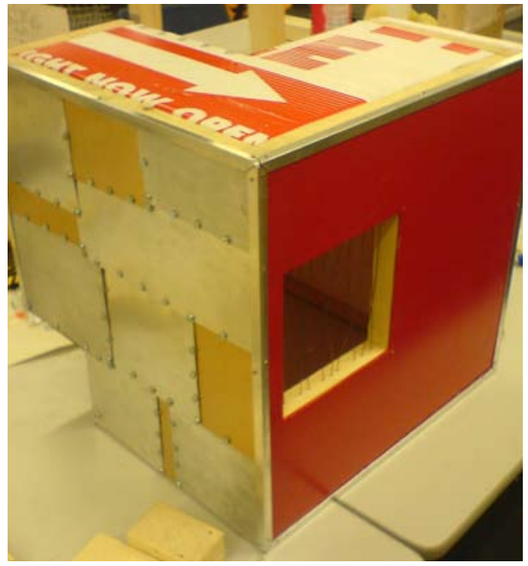
ARC1149

01.11.07 - 29.11.07

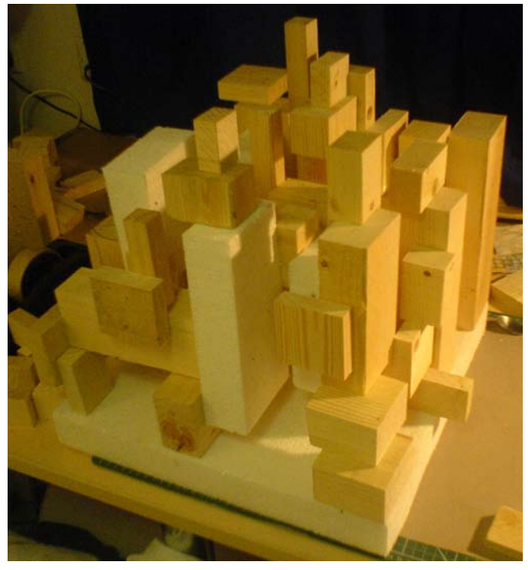








The project entailed the making of three separate cubes using 'real' materials and construction techniques. Each cube must be 400 x 400 mm, exploring the relationship between solid and void, form and space.

Learning about implied, defined, contained space and solidity, this project was more about the hands on approach to construction and material realities and limitations though creating and organising abstract form and space was also a key aspect.

Phase One - The Void
Defining a cube though spaces and voids. No glue was allowed here only craftsmanship and mechanical fixings.

Here three or four spaces have been created through nothing but a frame. The joinery became easier the more you worked in the workshop and this project certainly helped overcome some practical fears.

Phase Two - The Skin
This was found to be more about the material exploration. Five different materials were used with several variety's of joinery including nuts and bolts, staples, pin nails, screws, threading, rivets, folding and even using the material itself to shape perfectly into the perfect attachment. Copper was tested, aluminium, polystyrene, hardboard and corrugated plastic from street signs.

Again Space was defined by a change in material and shape of the frame.

Phase Three - The Solid
Using only waste off cuts of wood and polystyrene, this last cube is a solid, defining a cube, implying a cube. It would have been great to have had more off cuts to build it further but this was by far the most successful cube.

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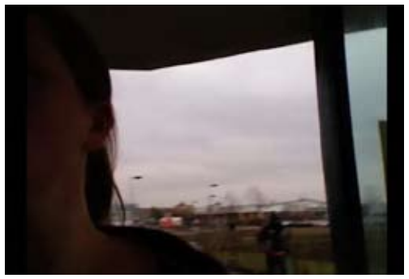











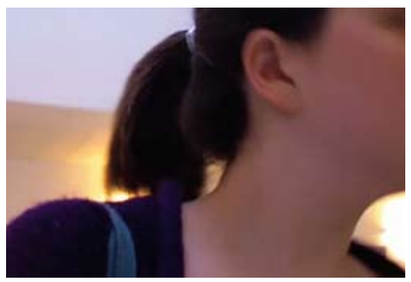














One Day Project - One

ARC1147

The Film

06.12.07

This project explores the spatial re-configuration of inside and around the school of architecture through the Media of film. While both fields (architecture and film) are often associated for their spatial experience and sequencing, the film has the advantage over architecture of its editing phase.

This projects draw attention to qualities we usually overlook and introduce an impossible, desired, imagined configuration.

This 3 minute film was great fun making and editing though would clearly be easier on a different format.

These images show the film in 5 second intervals from the start (top left) to end (bottom right)

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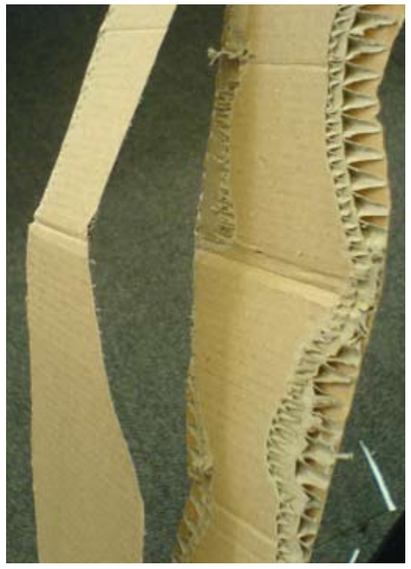
One Day Project - Two ARC1147

The Light

13.12.07

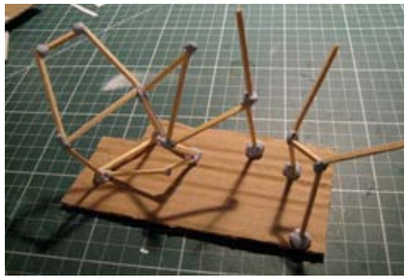
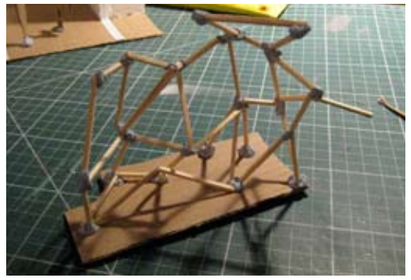


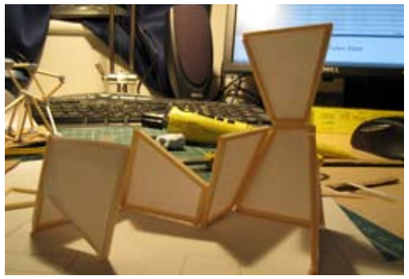
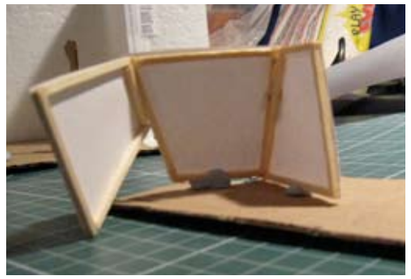
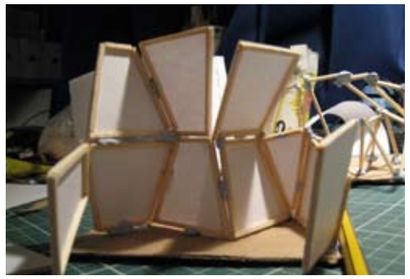
This one-day group project was an atempt to investigate light and shadow effects through the use of only a sheet of corrugated card board and cutting utensils.

Becoming more about the textural qualities of the material and the more subtle elements that can be extracted, the project was little success.

The final piece was more a decorative tile than an explorative, explosive product. The lack of group work showed a miserable finish.









Brief 05

ARC1151

Modern Living
Morphosis

29.11.07 - 24.01.08

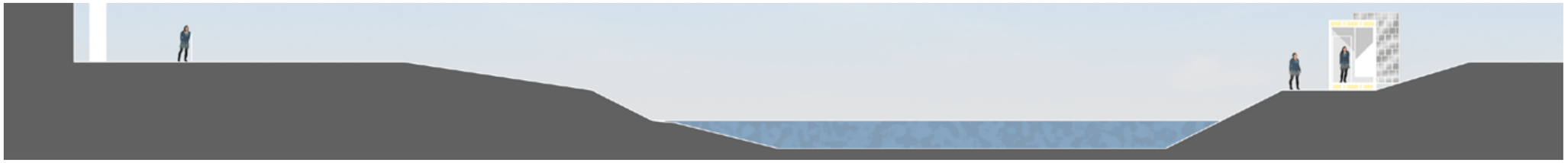
Another group experiment, the Modern Living project, was a fairly disastrous trip but with fairly wonderful results.

The brief was to design and make a professional exhibition presentation that answers the question, "What does the work of this designer tell us about modern living?"

The difficult part of the project was not the research but the getting along in a team to make things happen and be productive.

Looking into the architects Morphosis as well as developing an understanding of modernism, was highly interesting and beneficial, conquering many readers blocks and library phobias.

It was exciting to find out further than just about the works of this company but also the history of the principle; Thom Mayne, and reading criticisms from a good handful of different sources.

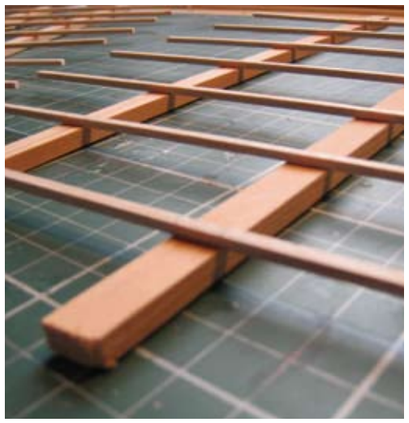
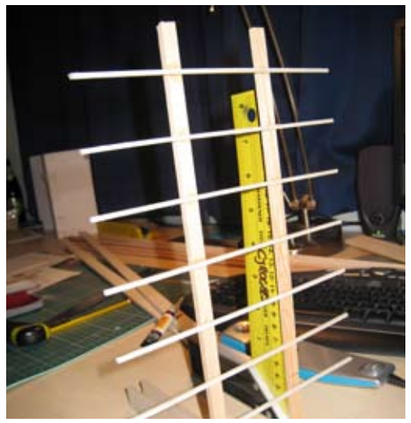


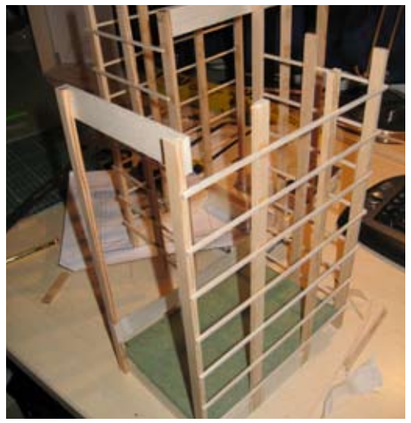
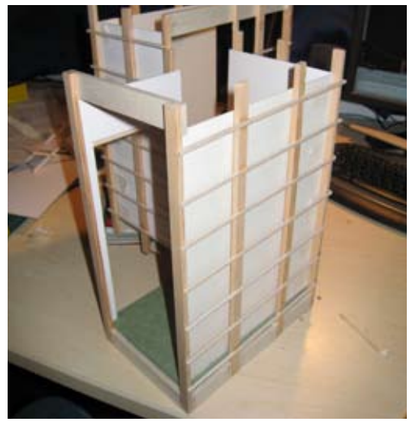
Brief 06

The Beach Hut

24.01.08 - 21.02.08

ARC1149









Project overview

To transform that most iconic symbol of British seaside architecture, the humble beach hut.

Beach huts are perceived as a treasured feature of our coastal landscape, as quintessentially British as fish and chips. We want to take the beach hut into the urban environment, so that everybody can appreciate their charm, and better understand their unique appeal.

Brief

The project will provide the opportunity to reinvent the beach hut in an urban context which will sit at the banks of the lake in front of the Architecture building.
The final presentation will consist of a 3 dimensional model 3000mm by 2500mm (scale 1.10) and a detailed construction section (scale1.20)

All scale models will be displayed on the shore of the lake. The huts will form a 'linear gallery' of seaside architecture amongst the urban buildings of the university campus.

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C J Rogers

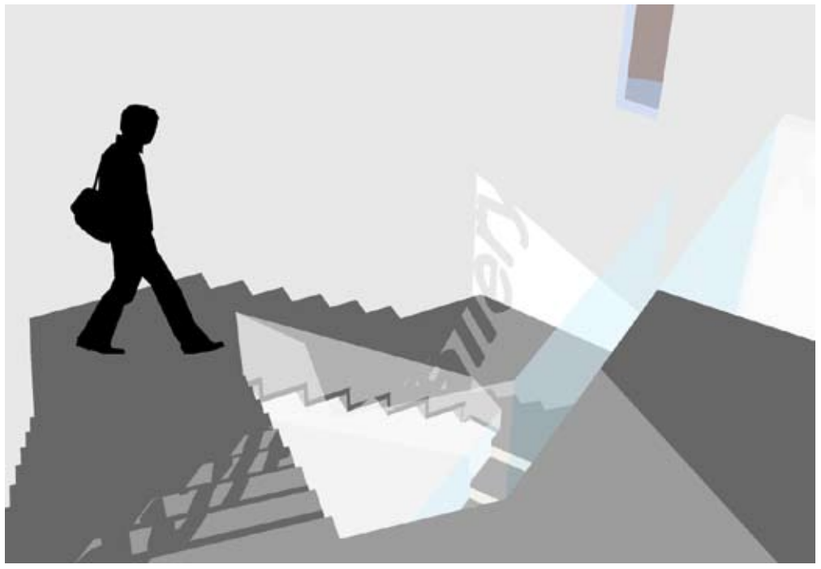
Brief 07

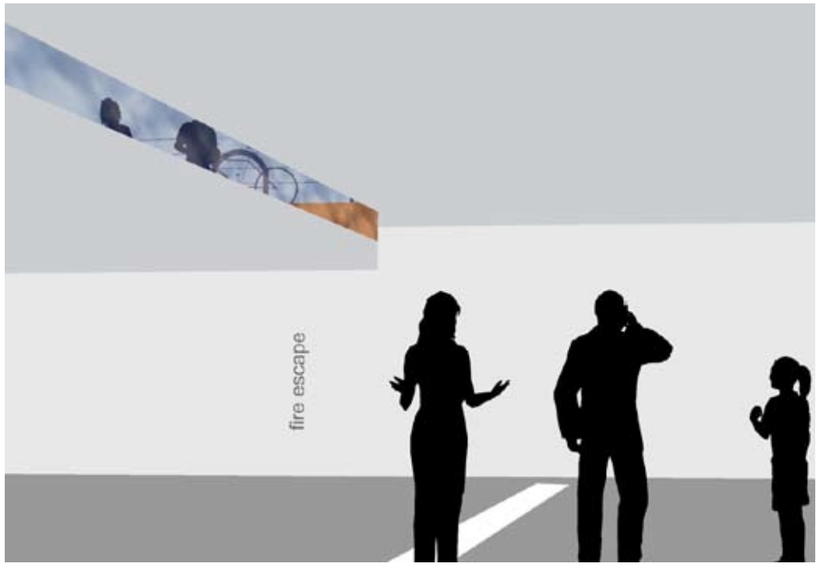
ARC1148

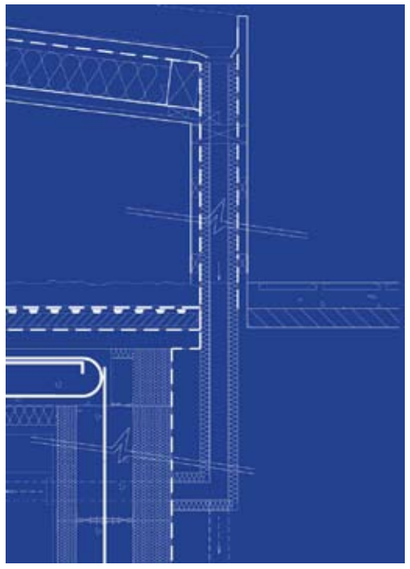
cdp

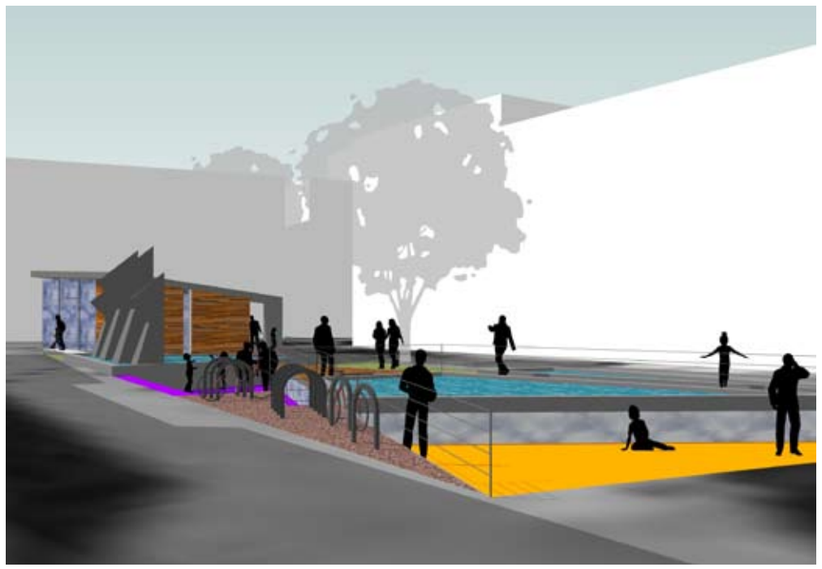
The Gallery

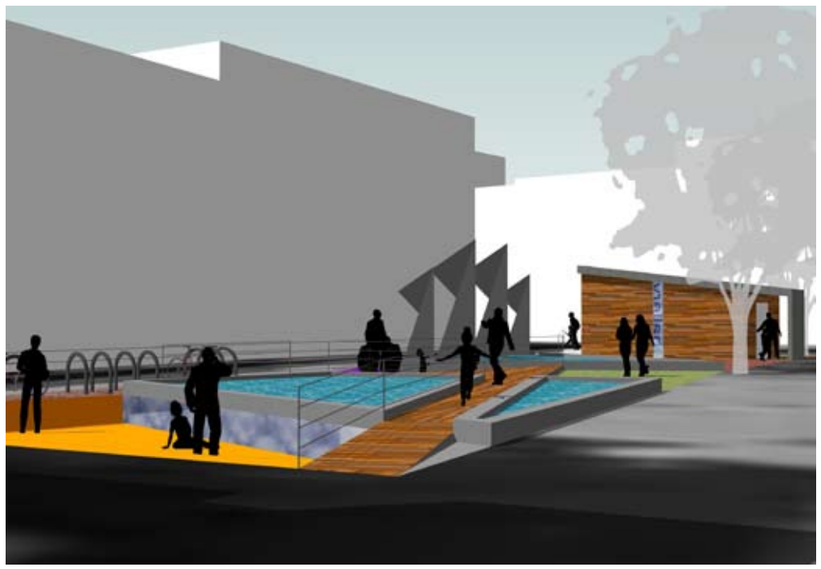
21.02.08-15.05.08











Portfolio of Work

University of Lincoln

C J Rogers

Ground floor and Site Plan 1:200 @ A2

Cobtun House

Associated Architects

Client: Nicholas Worsley
Architects: Associated Architects
Location: River Severn, Worcester

With views out onto the River Severn, this house in a conservation zone on the outskirts of Worcester is an example of well designed sustainable architecture. Informal and tactile, this building truly responds to it's site and context. Using local materials where ever possible, designing for the use of solar gains, this functional building is not only ecological but sustainable and aesthetically pleasing also.

The open plan layout of the house has been cleverly thought out to perform perfectly; function over form, which, as one member of the occupancy was at the time wheelchair bound, was a highly important factor according to John Christopher of Associated Architects.

Sustainability was the main factor that fed the design. Important as is was Associated Architects brought in a specialised engineer who was acknowledged by the

The house is mainly timber construction, but the cob wall that runs all the way round from the East of the site to form the north wall and providing essential thermal mass to the house where the timber frame fails to deliver. (This cob wall is the most interesting and so has been detailed to the right of the sheet.)

Images

1 Out side the southern dining area at night and shows the use of the local timber

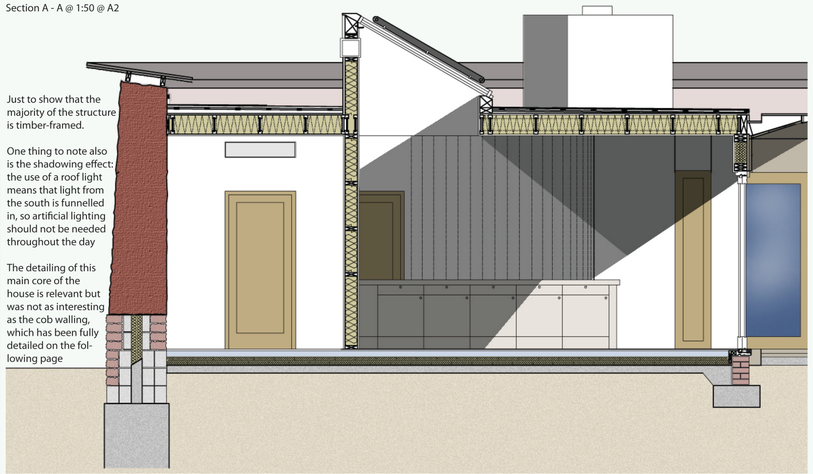
2 Indicates the fantastic view from the house as well as the natural shading system of the vines above the glazing

3 House from the south side, the solar panels for heating water are visible. Also noted is the concept here where the house merges with the ground

4 The significant use of timber clad is shown here as well as the over all aesthetics that have been produced in the design of this house

5 The cob-wall-to-roof junction, this image is a photo of the aluminium roof panel overhanging the cob wall via the support of the treated sw battens. The fantastic mix of natural and man made that this project is all about

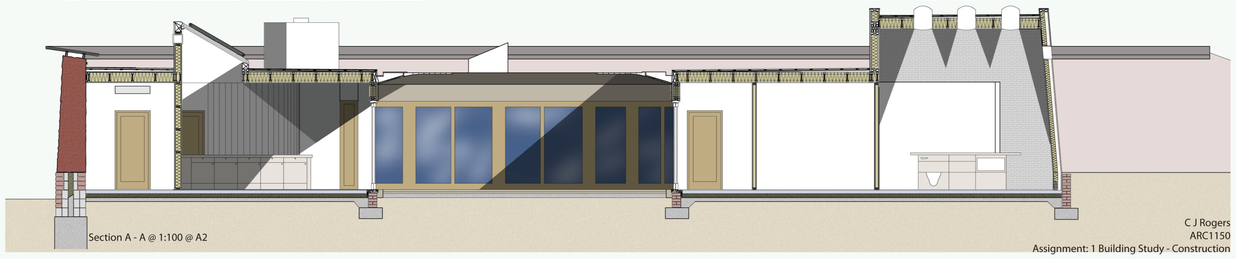
Section A - A @ 1:50 @ A2



Just to show that the majority of the structure is timber-framed.

One thing to note also is the shadowing effect; the use of a roof light means that light from the south is funnelled in, so artificial lighting should not be needed throughout the day

The detailing of this main core of the house is relevant but was not as interesting as the cob walling, which has been fully detailed on the following page



Section A - A @ 1:100 @ A2

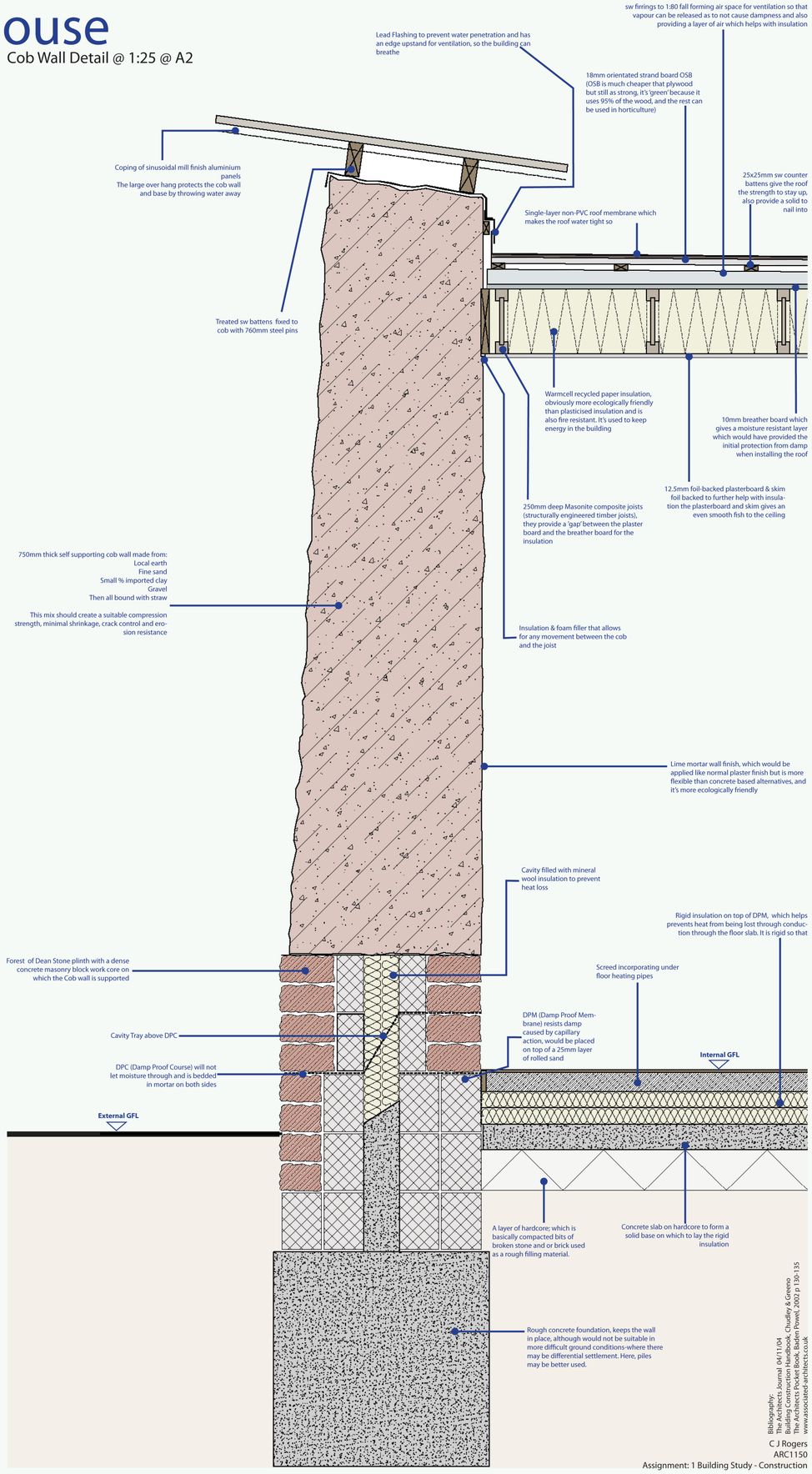
C J Rogers
ARC1150
Assignment: 1 Building Study - Construction

Cobtun House

Associated Architects

"The house is made from local oak and glass ahbutting an unusual wall of red earth. Against the encircling wall and buffer spaces to the north, a south-facing open-plan layout opens out to a terrace and grass meadow with distant views beyond. The vertical volumes of chimney stack and principle bathroom are finished in render using sand from the site itself. Low environmental impact material and construction are used throughout, including recycled cellulose, timber and the site earth. Energy conservation measures include solar panels, rainwater reclamation and a passive solar strategy with vines giving seasonal shading."
Associated Architects

Cob Wall Detail @ 1:25 @ A2



Cobtun House, As Sustainable Architecture:

Solar water heating panels
Rainwater harvesting - for washing machine, cisterns & garden watering
Low-water-flow taps & appliances
Insulated south facing glazing
Seasonal shading from 2m of vines on south side
Reflection of natural lighting
Local materials - virtually no transport or manufacturing costs/carbon
Recycled newsprint insulation
Low impact paints and varnishes
PVC free wiring, and roof membrane

Glazing on south side to maximise solar gain
Cob wall to the North for the benefits of solar massing (detailed right)

Particularly impressive were the following calculated U Values:
floor U=0.2W/m ^{2} K
Roof U=0.17W/m ^{2} K
Walls U=0.19W/m ^{2} K

Peek solar gain = 3 084W
Useful solar gain = 2 905W

Completion: 2003
Gross Internal Area: 246m ^{2}
Total Cost of Build: £328 000

Awards: RIBA Architecture award 2005
RIBA Sustainability award 2005
Worcester City Design Award 2003

Bibliography:
The Architects Journal 04/11/04
Building Construction Handbook, Chudley & Greeno
The Architect's Guide to Law, Andrew Powell, 2004 p 130 135
www.associated-architects.co.uk

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Assignment: 1 Building Study - Construction

Brooke Coombes House

Site & Context Plan 1:200
0 25

Burd Haward Marston Architects

Architects: Burd Haward Marston Architects
Clients: John Brooke & Carol Coombes
Location: Ealing, West London

In the middle of a conservation area this contemporary house was designed around light and a link with the outdoors. The courtyard area brings the outside inside, providing light, warmth and a closeness with nature.

Pile foundations were used because of the closeness of the adjacent property and the differentiation and swelling of the land that may be caused due to the removal of trees on site. Other than having the piles inserted the project was a self build. The designs based around the fact that the clients would be building the house themselves, and the drawings were made easy to understand for the same reason. A steel frame was perfect as it could be prefab then lifted into place on the piles, minimising the risk of failure.

The house is tailor made to the clients needs and wishes; even the childrens bedrooms dismountable for when they leave home and more space is wanted.

Designing for Daylight

"An Average day light factor of 5% or more makes a room feel abundantly day lit, except on a dull day or close to dawn or dusk... less than 2% looks rather dim" aj technical 07.11.95

The Brooke Coombes house was designed for the light. At the start of design process the clients knew little about what they wanted except that they wanted something "light"

To see if the architects got this aspect right it is possible to calculate the Daylight factor and the illuminance of the rooms in overcast conditions.

Average Daylight Factors

The rule-of-thumb equation for calculating the average day light factors of a building is this:

$$DF = \frac{20Aw}{Af}$$

Where:

DF=Average Daylight Factor
Aw=total area of window
Af=total floor area

In the Brooke Coombes House
Aw = 56040775mm²
Af = 168811268 mm²

DF= 20 x 56040775
168811268

DF = 6.64%
= 7%

Illuminance

Illuminance = the amount of light falling on a surface
Or, mathematically:
Illuminance = Lumens = LUX
m^2

There are different light levels required for different tasks:

Illuminance	Description
100	Circulation
300	General Applications
500	General Office
700	Drawing Office / high visibility needed

87% of the time in Britain is overcast. This provides 5000 LUX

Calculating the total area of the windows:

Window	Dimensions	Area mm²
a	2350 x 945	2220750
b	3100 x 460	1426000
c	2700 x 1765	4765500
d	4230 x 4280 x 5930	21594150
e	2025 x 4280 x 5930	10337625
f	4750 x 405 x 178	1384625
g	13900 x 405	5629500
h	4750 x 405 x 178	1384625
i	2050 x 1780	3649000
j	2050 x 1780	3649000
	Total:	56040775

So if:
Average Daylight Factor = $\frac{Ei}{Eo} \times 100\%$

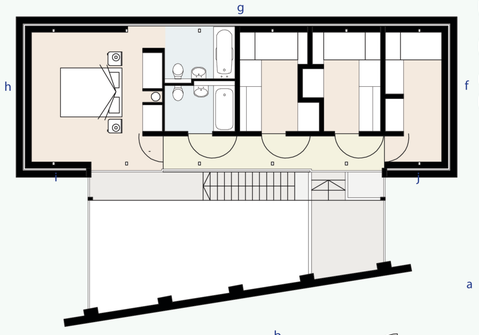
Our DF = 7%
Eo= 5000 (worst conditions)

$7 = \frac{Ei \times 100}{5000}$

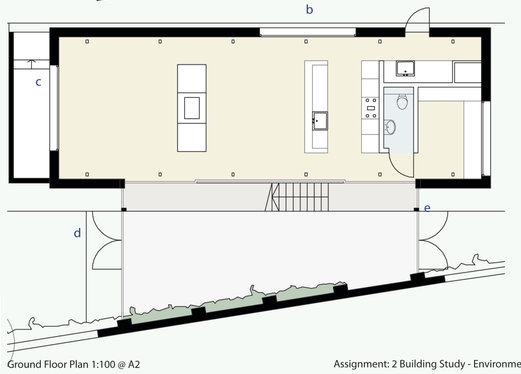
$0.07 = \frac{Ei}{5000}$

Ei = 350 LUX

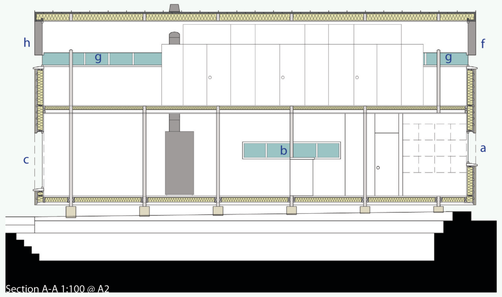
350LUX is a fine value for lighting for living conditions and a fantastic value for overcast conditions so Burd Haward Marston Architects definitely got the lighting right in this design



First Floor Plan 1:100 @ A2



Ground Floor Plan 1:100 @ A2



Section A-A 1:100 @ A2

Thumbnail Photographs

1 view out into the conservatory/ courtyard, which can act as a living space extension.

2 The front of the property as seen from a neighbouring house on Mountfield Road.

3 view looking into the living area from the courtyard, giving a feel of the spacious outside/inside feel.

4 from the end of the rear garden; the backdoor , showing the transparency yet privacy the house has to offer.

5 the 2nd bedroom with its fantastic natural views and well integrated storage space that really makes the building work.

6. a westerly birds eye view of the site taken from local.live.co.uk which shows its local environment

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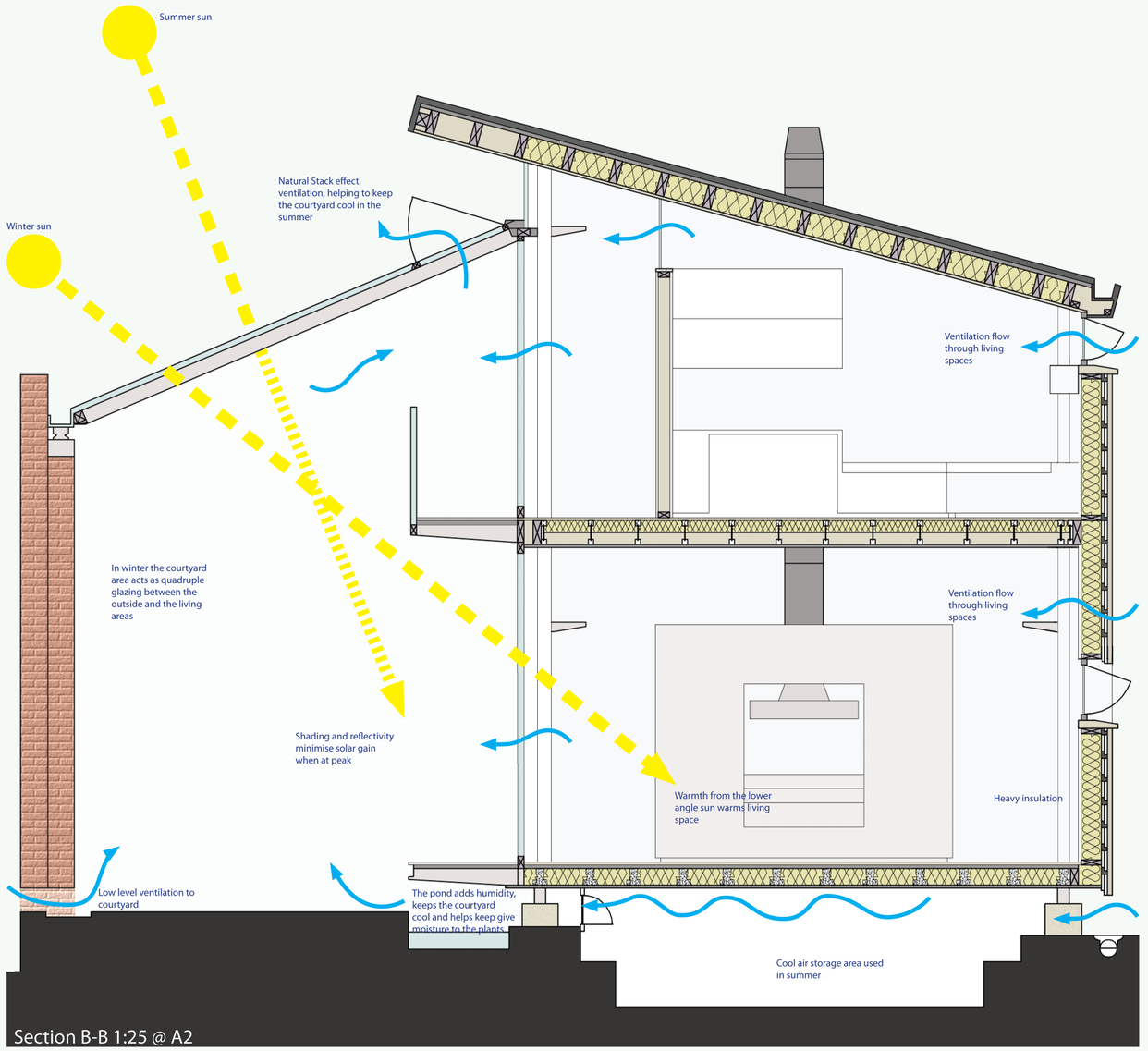


Section B-B 1:25 @ A2

The Envelope

The clients need an envelope that keeps out the rain, heat, draughts and noise whilst letting air out. Heat and noise need to be kept in but fresh air and light need to be let in.

The architects have made use of the solar gain available to the site.

Facing into the south the glass court yard is exposed to the warmth of the sun. However the vents underneath the house and under the southern wall, can be opened to draw fresh cooler air in if it's needed.

The House is designed around the 'stack-effect', hot air rises warming the upper floor but can easily be released through roof windows, creating a totally controllable heating element.

The windows to the north can be smaller and more private as the glass roof on the courtyard will provide the majority of the light and heat.

Had the stairs have been placed inside the main building the open plan space would have been sacrificed and the heat from the downstairs would have been lost to the upper floor. By placing them in the courtyard the ground floor can retain its heat and the 1st floor does not get over heated.

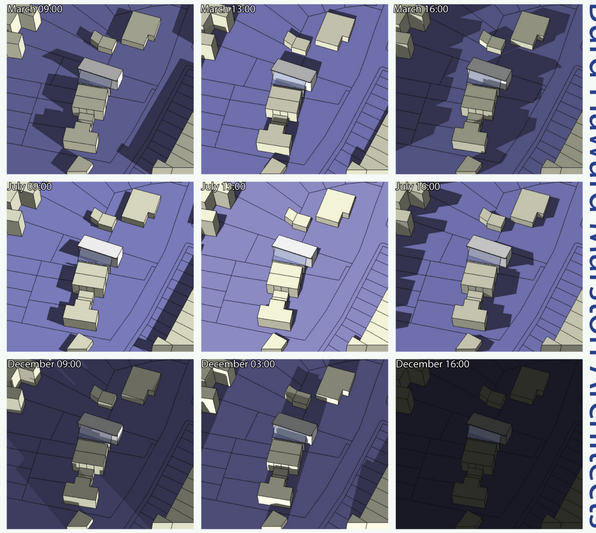
The roof containing the courtyard is supposed to work as shown. When the sun is at it's highest point there is a greater reflection from the glass so less light and heat penetrates into the house. When the sun is lower in the sky however (e.g in the winter, early morning or later evening) the suns rays are less disturbed and should heat up the internal space.

To see how effective this strategy this would be a simple sun path model can be created. These images show the shadows cast by the sun at different times of the day, at different times of the year.

The diagram shows that the shadow cast by the adjacent building is almost covering the whole roof even at mid-day in December when solar gain is most needed, which shows that perhaps further heating would be required. Heat is most needed in the winter but this courtyard area would most likely be extremely cold in the winter. Yet, as the stairs are here and not in the core of the building, the residents will have to brave the cold even in their own home. Therefore this was probably not such a successful strategy.

Bibliography:
The Architects Journal 30/08/01 P22-29
The Architects Journal Technical 07/12/95, p38-9
The Architects Pocket Book, Baden Powel, 2002 p 130-135

Brooke Coombes House



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